

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-010533**Date Inspected:** 03-Dec-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower**Summary of Items Observed:**

CWI Inspector: Mr. Gong Liang Zhu

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

**Tower Bay 10**

This QA Inspector observed ZPMC welder Mr. Yu Jun, stencil 201825 is using flux cored welding procedure WPS-B-T-4333-TC-P4-F to make north tower lift 4 weld NSTL4-3J/L-092. This QA Inspector measured a welding current of approximately 215 amps and 24.0 volts and the base material has been preheated with an electrical heating element and ZPMC QC personnel are monitoring that the maximum 230 degrees Celsius interpass temperature is not exceeded prior to making the next weld pass. This QA Inspector observed that Mr. Yu Jun appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Pu Xuezheng, stencil 052075 is using flux cored welding procedure WPS-B-T-2232-TC-U4b-F-1 to make north tower lift 4 weld NSTL4-3C/L-105. This QA Inspector measured a welding current of approximately 305 amps and 32.5 volts and the base material has been preheated with an electrical heating element and ZPMC QC personnel are monitoring that the maximum 230 degrees Celsius

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interpass temperature is not exceeded prior to making the next weld pass. This QA Inspector observed that Ms. Pu Xuezheng appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Dong Yumei stencil 054069 is using flux cored welding procedure WPS-B-T-2232-TC-U4b-F-1 to make north tower lift 4 weld NSTL4-3F/L-045. This QA Inspector measured a welding current of approximately 320 amps and 30.0 volts and the base material has been preheated with an electrical heating element and ZPMC QC personnel are monitoring that the maximum 230 degrees Celsius interpass temperature is not exceeded prior to making the next weld pass. This QA Inspector observed that Ms. Dong Yumei appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Dong Yuqin, stencil 053116 is using flux cored welding procedure WPS-B-T-4333-TC-P4-F to make north tower lift 4 weld NSTL4-3C/L-023 QA Inspector measured a welding current of approximately 215 amps and 24.0 volts and the base material has been preheated with an electrical heating element and ZPMC QC personnel are monitoring that the maximum 230 degrees Celsius interpass temperature is not exceeded prior to making the next weld pass. This QA Inspector observed that Ms. Dong Yuqin appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

### Blast Shop #4

ZPMC issued "Notice of Inspection" Request Number 2110 informing QA that at 2200 hours ABF Inspectors and Caltrans QA Inspection personnel are requested to carry out visual inspection of surface preparation of lift 1E. This QA Inspector and Caltrans QA Inspector Mr. Utekar performed random visual inspections of the exterior surfaces of OBG Segment 1E and portions of the interior of 1AAE. ZPMC recently performed weld repairs of the segment splice welds and due to removal of the coatings in certain locations, ZPMC has utilized grit blast equipment to remove all the paint from the interior end section of Segment 1AAE and ZPMC intends to paint it a second time. This inspection of 1AAE was limited to the far end of segment 1E bottom plates only and this QA Inspector visually observed approximately 10 locations that require grinding to resolve visual shallow nicks scrapes and an arc strike. The areas were marked with colored chalk and ZPMC has a worker using a grinder to remove the areas that had been marked as being visually unacceptable. Due to this inspection taking place late at night, ZPMC does not presently have any magnetic particle (MT) inspectors available to perform Magnetic Particle Testing (MT) inspections of the arc strike removal areas and ZPMC inspection personnel informed this QA Inspector that the arc strike removal areas will be MT'd tomorrow. ZPMC paint inspection personnel informed this QA Inspector that ZPMC is going to grit blast the interior surfaces a second time.

### Summary of Conversations:

See Above.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Dawson,Paul	Quality Assurance Inspector
<b>Reviewed By:</b>	Carreon,Albert	QA Reviewer

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